

### **Abstract of the Disclosure**

It is an object of the invention to prolong the service life of a sputter ions source, to lower the maintenance costs and largely to prevent atomization of the parts of the ions source, which are in the vicinity of the cathode insert, necessary for generating the negative ions.

The invention starts out from the components of ionizer (2), cathode (3), sputter insert (4), forming electrode (5), shielding cap (6) and cathode insulator (7) in a vacuum-tight housing and is characterized in that that a shielding cathode (1) is disposed hollow cylindrically about the sputter cathode, consisting of the components of cathode (3), sputter insert (4) and shielding cap (6), the shielding electrode (1) tapering rotationally symmetrically in the region of the sputter insert (4).